

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 17 of 35

REMARKS/ARGUMENTS

The present application includes pending claims 1, 4-13, 31-34, 62-64 and 66-87. Claims 1, 4-13, 31-34 and 62-67 all stand rejected. The February 25th Amendment amended claims 1, 62 and 64, cancelled claim 65, and added new claims 68-87. Claims 1, 4-13, 31-34, and 62 stand rejected. Reconsideration of the claim rejections is respectfully requested.

I. Interview Summary

An Interview was conducted with the Examiner on October 13, 2004. Agreement was reached with respect to claims 1, 4-13, 31-34, and 62-67. See, e.g., Interview Summary submitted by Examiner. The Interview Summary recites the following:

With respect to claims 1 and 62, applicant/examiner suggested amending claims to include "programmed to" to overcome cited prior art. "Programmed to" includes a program to perform the recited function. With respect to claims 33, 34, 66, and 67, cited prior art is overcome by the independent claims. In light of discussion applicant suggested further amendment but will consider for a later date. With respect to claim 64, applicant suggested an amendment in which claim 65 is written as an independent and the phrase "non-detonating" removed. Since there is no prior art applied to these claims the cited matter is in condition for allowance.

See *id.* at page 3. The Applicants have amended the claims accordingly.

The April 14th Office Communication suggests that the Applicants need to provide a more detailed interview summary than was issued by the Examiner on

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 18 of 35

October 13, 2004 (and reissued in duplicate on April 7, 2005). Applicants are puzzled by the Examiner's comments regarding the need to supplement the Interview Summary, given that the October 13, 2004 Interview Summary was reviewed and agreed to by all persons present at the interview.

Applicants appreciate that we discussed with the Examiner aerospace and automotive contexts of the invention. Applicants believe that the amendments provided address these issues as illustrated in the comments below. For example, in discussing the rejection of claims 33 and 34 below, it is noted that the structure of Darby and/or Adams may be particularly well suited for vehicle safety systems, such as air bags where it may be desirable to maintain the air bags in an "always on" state. By contrast, the recited features of claims 33 and 34 provide added safety and reduced energy consumption by maintaining the pyrotechnic devices in an unarmed state until the arming signal is issued, which may be desirable, for example, in aerospace applications.

If, after consideration of the following, the Examiner is unpersuaded, Applicants would like to personally or telephonically interview the case to better appreciate and understand the Examiner's concerns.

II. The Objection To The Drawings Should Be Withdrawn

The drawings are objected to under 37 CFR 1.83(a) because the components "initiator" and "bleed resistor" are not shown. The Applicants respectfully submit, however, that "initiator" is clearly shown in the drawings and is discussed at length in the specification. For example, the specification of the present application states the following:

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 19 of 35

An initiator 304 [shown, e.g., in Figure 3] within the pyrotechnic device 202 preferably includes an electronic assembly 308 and a pyrotechnic assembly 310.

See application at page 7, lines 16-17. As such, the "initiator" is clearly shown in Figure 3, for example, and discussed at length in the specification.

A "bleed resistor" is well known to those skilled in the art, and is clearly discussed in the specification, as well.

A bleed resistor (not shown) is preferably connected across ERV 302, and the ERC 302 discharges its energy into that bleed resistor during the disarming process. A switched discharge device other than a bleed resistor may be used, if desired. The use of a bleed resistor or other switched discharge device to dissipate energy stored within a capacitor is well known to those skilled in the art.

Id. at page 18, lines 3-7. Thus, while the "bleed resistor" is not specifically numbered in Figure 3, a person having ordinary skill in the art is familiar with a bleed resistor.

Overall, the Applicants respectfully submit that the initiator is shown in, for example, Figure 3 of the present application. Further, one having ordinary skill in the art knows what a bleed resistor is, and the specification teaches that such a bleed resistor may be connected across the ERC 302. Thus, the Applicants respectfully submit that the components of the each pyrotechnic device are shown and described in the specification, and request reconsideration of the objection to the drawings.

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 20 of 35

III. Although The Rejection of Claims 64 And 65 Under 35 U.S.C. § 112 Was Improper, It Has Been Rendered Moot by the Claim Amendments

Claims 64 and 65 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. These claims were also been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regards as the invention. In particular, the Office Action states the following:

Claim 64 makes references to "non-detonating initiators". An initiator is defined as the combination of a pyrotechnic assembly and an electronic assembly within a pyrotechnic device. Applicant has not disclosed how or in what manner said initiator could be "non-detonating."

It is not clear to the examiner how such an assembly can be non-detonating.

See August 27, 2004 Office Action at page 4, ¶¶ 6 and 7.

These rejections are now moot in view of the amendments to claim 64 and the cancellation of claim 65. Specifically, claim 64 no longer uses the term "non-detonating initiator." Instead, claim 64 specifies "wherein one or more of said pyrotechnic devices comprise a cable cutter or a bolt cutter." Hence, the rejections under Section 112 are moot.

Even though the Section 112 rejections have been rendered moot, the Applicants dispute that these rejections were proper in the first place. Specifically, "non-detonating initiators" are described in the specification of the present application and this terminology is definite within the meaning of 35 U.S.C. § 112, second paragraph. In this

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 21 of 35

regard, the same indefiniteness rejection was previously raised by the examiner (see the March 18, 2003 Office Action, pages 2-3, ¶¶ 2-3) and was adequately addressed by the Applicants (see May 19, 2003 Response After Final Rejection at page 2). Thereafter, the Examiner issued an Advisory Action on June 2, 2003 stating that "Applicant's reply has overcome the . . . 112(2) rejection of claims 64 and 65." (See June 2, 2003 Advisory Action at Section 3). Hence, it is respectfully submitted that this rejection has previously been overcome, and that the reassertion of this rejection is not in keeping with the goal providing prompt and complete examination of a patent application, as expressed in MPEP § 2106(II).

Similarly, the rejection of claims 64 and 65 under the first paragraph of Section 112 was improper. As has previously been explained by the Applicants, the language "one or more of said pyrotechnic devices comprise non-detonating initiators" does not mean that the pyrotechnic devices themselves are non-detonating. Rather, it means that the pyrotechnic devices have initiators that are non-detonating. As is well known in the art, initiators can be either detonating or non-detonating. A detonating initiator creates a detonation which in turn detonates the pyrotechnic device. By contrast, a non-detonating initiator uses a mechanical force, for example, as opposed to a detonation, to detonate the pyrotechnic device. In this respect, the specification states the following:

In a preferred embodiment, each pyrotechnic device 202 may be any device capable of pyrotechnic initiation, such as but not limited to rocket motor igniters, thermal battery igniters, bolt cutters, cable cutters, and explosive bolts.

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 22 of 35

See Application at page 7, lines 3-5.

Bolt cutters and cable cutters, which are described in the specification, constitute non-detonating initiators. Thus, the specification of the present application discloses "non-detonating initiators," as shown, for example, by the passage cited above. As such, "non-detonating" initiators are enabled within the requirements of 35 U.S.C. § 112, first paragraph.

IV. The Claim Rejections Have Been Overcome

Claims 1, 4, 5, 7, 8, 10, 11, 12, 31,-34, 62-64, and 67 stand rejected under 35 U.S.C. 102(b) and (e) as being anticipated by United States Patent No. 6,166,452 ("Adams") and United States Patent No. 5,825,098 ("Darby"). Claims 6 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Adams/Darby in view of United States Patent No. 5,014,622 ("Jullian") and United States Patent No. 5,206,455 ("Williams"). Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Adams in view of United States Patent No. 6,403,887 ("Kebabjian"). The Applicants respectfully traverse these rejections at least for the reasons set forth below and previously discussed during prosecution of the present application.

The Applicants first turn to the rejection of claims 1, 4, 5, 7, 8, 10, 11, 12, 31,-34, 62-64, and 67 under 35 U.S.C. 102(b) and (e) as being anticipated by Adams and Darby. As was noted above, during the October 13, 2004 interview, it was suggested that amending claims 1 and 62 to include "programmed to" would overcome the cited prior art. Specifically, it was suggested that the use of the "programmed to" language recited sufficiently definite structure to address the inherency rejection based on Adams

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 23 of 35

and Darby. Applicants have so amended claims 1 and 62 and therefore believe claims 1 and 62 are patentable over Adams and Darby.

The August 27, 2004 Office Action asserted that "it is assumed that Darby's controller possesses the inherent capability of addressing the devices as claimed by the applicant." See August 27, 2004 Office Action at ¶ 9, page 6. A rejection based on inherency must include a statement of the rationale or evidence tending to show inherency. See Manual of Patent Examining Procedure at § 2112. "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." See *id.* citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."

In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Neither Darby nor Adams, nor the Office Action "make[s] clear that the missing descriptive matter," said to be inherent of "Darby's controller" "is necessarily present in" Darby and/or Adams. Specifically, Darby and/or Adams simply do not teach, nor suggest, a bus controller "being programmed to selectively address, with a single command, or more of said pyrotechnic devices using said unique identifiers, whereby a single command can be used to address as few as one, as many as all, and any

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 24 of 35

combination of the pyrotechnic devices that are connected to the network," as recited in claim 1 of the present application. Further, neither Darby nor Adams, nor the Office Action, make clear that these limitations are necessarily present in Darby and/or Adams.

A rejection based on inherency must be based on factual or technical reasoning:

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teaching of the applied prior art.

Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

No basis in fact and/or technical reasoning has been provided to support the rejections based on inherency. Instead, as recited above, claim 1 of the present application stands rejected based on a conclusory statement of inherency, rather than upon a "basis in fact and/or technical reasoning." Accordingly, Applicants respectfully submit that, absent a "basis in fact and/or technical reasoning" for the rejection of record, that rejection should be reconsidered and withdrawn.

Further, as discussed previously during the prosecution of the present application, in a system according to claim 1 a single command can be used to address as few as one and as many as all of the devices (or any combination therebetween). Claim 1 recites, in part, that "a single command can be used to address as few as one, as many as all, and any combination of the pyrotechnic devices that are connected to

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 25 of 35

the network." Darby and Adams both utilize specific, unique address codes for each device.

The safety device activation commands and the integrity data commands are comprised of a binary coded address part for selecting a particular safety device controller 200, and a binary coded command part that specifies the action to be performed by the selected safety device controller 200. (Darby at column 10, lines 60-65.)

These commands typically comprise a binary coded address part that *selects a particular safety device* controller 200, and a binary coded command part that determines the action to be taken. (*Id.* at column 13, lines 53-56 (emphasis added). See also *id.* at column 14, lines 50-56 ("The command 550 typically comprises a binary coded address part 552 that selects a particular safety device controller, 200 in FIG. 1 through FIG. 6, and a binary coded command part 554 that determines the action to be taken").

Neither of these references disclose or suggest addressing more than one device with a single command. Because Darby and Adams both utilize specific, unique address codes for each device, they cannot possibly address more than one device with a single command. That is, Darby and Adams teach away from addressing more than one device with a single command. As such, the limitations of claim 1 cannot possibly be inherent features of Darby and/or Adams.

The system of claim 1 is further patentable over Darby and/or Adams because neither of these references provide the ability to "address as few as one, as many as all,

Response to Office Action of April 14, 2005
Serial No. 09/666,325
May 13, 2005
Page 26 of 35

and any combination of the pyrotechnic devices" using a single command, as required by claim 1. The system of claim 1 provides complete flexibility in testing, loading, disarming and/or firing any subcombinations of the pyrotechnic devices that are connected to the network. This feature simply is not disclosed or contemplated in Darby or Adams. Hence, claim 1 (and its dependent claims 4-13, 31 and 32) are patentable over the cited references.

Claims 4-13, 31 and 32 depend from claim 1 and are patentable at least for the reasons given in connection with claim 1. Moreover, these claims define further patentable features over the art.

For example, claim 4 further recites that the "bus controller transmits and receives multiplexed digital signals over said network." The Office Action asserts that the microprocessor of Darby is the same as the "bus controller" claimed in the present application, and is therefore inherently capable of sending and receiving multiplexed digital signals. Similar to the rejection of claim 1, however, the Office Action does not contain a basis in fact and/or technical reasoning to support the rejection based on inherency. The Office Action merely attempts to equate the microprocessor of the Darby with the bus controller of claim 1 of the present application. Accordingly, Applicants respectfully submit that, absent a "basis in fact and/or technical reasoning" for the rejection of record, that rejection should be reconsidered and withdrawn, at least for this reason.

Claims 31 and 32 ultimately depend from claim 1 and are patentable over Adams and/or Darby at least for the reasons given above. Moreover, these claims recite further patentable distinctions over the proposed combination of references. Specifically, claim

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 27 of 35

31 specifies that the "bus controller "automatically assigns the unique identifiers to each logic device." Claim 32 further specifies that "the bus controller assigns the unique identifiers to the logic devices each time the ordnance system is powered up." As has previously been acknowledged by the Examiner, neither Darby nor Adams disclose the subject matter of these claims.² The current Office Action, however, now claims that the "limitations are not afforded patentable weight sufficient to overcome the cited prior art of Adams/Darby." See August 27, 2004 Office Action at ¶¶15, page 6. Further, the Office Action reiterates the same inherency argument, without a basis in fact or technical reasoning. The Applicants are confused by this conclusory rejection, especially considering that it has been presented for the first time in the August 27, 2004 Office Action. In general, the Applicants respectfully submit that claims 31 and 32 are patentable at least for the reasons discussed above, and previously during prosecution.

Regarding claims 33 and 34, the interview summary issued by the Examiner following the October 13, 2004 interview acknowledges that, "[w]ith respect to claims 33, 34, 66 and 67, [the] cited prior art[, including Adams and Darby] is overcome by the independent claims." In this respect, Applicant's again note that claims 33 and 34 require, *inter alia*, "means for transmitting a digital arming command onto the network." Claims 33 and 34 further require that "the logic device in each of the pyrotechnic devices is operative for storing activation energy in the associated pyrotechnic device if

² The Examiner previously acknowledged that "Adams/Darby does not disclose all of the subject matter of applicant's claim 1 [and, hence, cannot disclose all of the limitations of claims 31 and 32, which depend from claim 1]." See, February 2, 2004 Office Action at p. 5, paragraph 14.

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 28 of 35

the digital arming command includes the unique identifier of the logic device." This claim feature provides added safety and reduced energy consumption by maintaining the pyrotechnic devices in an unarmed state until the arming signal is issued. Applicants can discern no disclosure of these claim elements in Adams and/or Darby, nor has the Office Action identified where these claim elements can be found in these references. To the contrary, Adams and Darby both appear to teach a system in which the energy storage capacitor 240 is continuously charged and available to activate the associated safety device 400. For example, in the embodiments shown in Figure 4 and 5 of Darby, the power converter 260 boosts the battery voltage and applies this increased voltage to the capacitor 240 to maintain the capacitor in a charged state. Similarly, Figure 6 of Darby shows an embodiment where the battery voltage is applied directly across the capacitor 240, thereby maintaining the capacitor 240 in a charged state. By contrast, the claimed invention only stores activation energy in a given pyrotechnic device in response to a digital arming command that includes the unique identifier associated with that particular pyrotechnic device. As was noted during the interview, the structure of Darby and/or Adams may be particularly well suited for vehicle safety systems, such as air bags, where it may be desirable to maintain the air bags in an "always on" state. By contrast, the recited features of claims 33 and 34 provide added safety and reduced energy consumption by maintaining the pyrotechnic devices in an unarmed state until the arming signal is issued, which may be desirable, for example, in aerospace applications. Hence, claims 33 and 34 are patentable over Adams and Darby.

Claims 33 and 34 further recite "means for altering an analog condition of the network to a firing condition . . . and releasing the stored activation energy into the

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 29 of 35

initiator of its associated pyrotechnic device if both (1) the analog condition of the network has been modified to the firing condition and (2) the digital firing command includes the unique identifier of the logic device." Thus, in addition to arming a given pyrotechnic device, it is also necessary to both (1) modify an analog network condition and (2) issue a firing command that includes the unique identifier for the logic device of that specific pyrotechnic device. Claims 33 and 34 define patentable subject matter at least for the reasons discussed above. As is discussed in the specification, this claimed feature enhances safety by reducing the possibility of erroneously firing a pyrotechnic device. (See, e.g., page 18, line 16 to page 19, line 11). This claimed combination is not disclosed nor suggested in the cited references.

Darby does not teach, nor suggest, "altering an analog condition of the network to a firing condition" and "releasing the stored activation energy into the initiator of its associated pyrotechnic device if both (1) the analog condition of the network has been modified to the firing condition and (2) the digital firing command includes the unique identifier of the logic device." The power converter 260 of Darby does not constitute a "means for altering an analog condition of the network to a firing condition" within the meaning of claim 1. Rather, the DC-to-DC power converter 260 of Darby is provided "for boosting the voltage level from a vehicle battery to a substantially greater voltage level than the voltage level of the vehicle battery, and for applying the substantially greater voltage level to an energy storage capacitor." (Darby, col. 8, lines 15-20, see also col. 13, lines 25-35). The power converter 260 of Darby is always connected to the capacitor 240, so as to maintain the capacitor in a charged state. Hence, it cannot be said that the power converter modifies an analog condition of the network to a firing

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 30 of 35

condition, since the output of the power converter is continuously applied to the capacitor 240.

It is also not understood how the analog to digital converter of Darby has any relation to claims 33 and 34. There is simply no teaching that the analog to digital converter 252 of Darby functions to modify an analog network condition to a firing condition, as required by claims 33 and 34. Rather, Darby makes it clear that the analog-to-digital converter forms part of an SDC diagnostic circuit 250 which is operative for reading integrity data from various components on a respective safety device controller (SDC) 200:

The SDC diagnostic circuit 250, which typically comprises a multiplexer and an analog-to-digital converter 252, comprises a means for reading the safety device controller integrity data, which includes integrity data for the SDC safing sensor 270, for the safety device 400, for the SDC energy storage capacitor 240, and for the SDC safety device activation circuit 230, and for reading functionality data of the SDC power converter 260.

Darby at column 14, lines 13-20. As has previously been explained, Darby discloses only activating a given safety controller device (SDC) when integrity tests indicate that particular SDC has not malfunctioned.

The safety device controller (SDC) 200 of FIG. 4 also comprises the SDC control circuit 210 which is a microprocessor in the preferred embodiment, for controlling the SDC communication interface 220, the SDC diagnostic circuit 250 and the SDC safety device controller 230. *The*

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 31 of 35

SDC control circuit 210 generates an SDC safety device activation signal 280 which is sent to the SDC safety device activation circuit 230 in response to a safety device activation command from the SDC communication interface 220 and safety device controller integrity data from an SDC diagnostic circuit 250 that does not indicate a malfunction.

Id. at column 14, lines 3-13 (emphasis added). The SDC control circuit 210 then compares the data received from the SDC diagnostic circuit 250 with predetermined values to determine if the SDC 200 has malfunctioned.

Also, when the SDC control circuit 210 receives an integrity data command from the SDC communication interface, it reads the safety device controller integrity data from the SDC diagnostic circuit 250, compares the safety device integrity data with predetermined limit values, and generates fault warning messages if the predetermined limit values are exceeded.

Id. at column 14, lines 21-27. If no malfunctions are detected, the SDC control circuit 210 issues an activation signal 280 to the SDC safety activation circuit 230.

The SDC control circuit 210 generates an SDC safety device activation signal 280 which is sent to the SDC safety device activation circuit 230 in response to . . . safety device controller integrity data from an SDC diagnostic circuit 250 that does not indicate a malfunction.

Id. at column 14, lines 7-13. Upon receipt of the activation signal 280, the SDC safety device activation circuit 230 couples the capacitor 240 to the safety device 400,

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 32 of 35

provided an SDC safing sensor 270 (in the form of an electromechanical acceleration sensor) is also closed. (Darby, col. 14, lines 30-40).

Hence, as has previously been noted, Darby discloses activating a particular SDC 200 when the following three conditions are met: (1) an activation command has been issued to that particular SDC, (2) an integrity test of that particular SDC produces acceptable results, and (3) an electromechanical acceleration sensor (safing sensor 270) has been closed.³ Darby does not, however, disclose or suggest "altering an analog condition of the network to a firing condition" and "releasing the stored activation energy into the initiator of its associated pyrotechnic device if both (1) the analog condition of the network has been modified to the firing condition and (2) the digital firing command includes the unique identifier of the logic device," as required by claims 33 and 34. Hence, claims 33 and 34 are patentable over Adams and Darby.

Claim 62 specifies that the bus controller "automatically assigns the unique identifiers to each logic device." Claim 63 depends from claim 62 and further specifies that "the bus controller assigns the unique identifies to the logic devices each time the ordnance system is powered up." Hence, claims 62 and 63 are patentable over Adams and Darby at least for the reasons given above.

The Office Action rejects claim 64 as being anticipated by Adams/Darby. Claim 64 has been amended to include the limitations of claim 65 and to address the Section 112 rejections. Therefore, claim 64 is believed to be in condition for allowance.

³ Note that this third condition is not required in certain embodiments, see, e.g., Figures 5 and 6.

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 33 of 35

Claims 66 and 67 are similarly patentable over Adams/Darby at least for the reasons discussed above. In particular, claims 66 and 67 recite "a bus controller connected to said plurality of pyrotechnic devices through said network, said bus controller being operative to (1) transmit a digital arming command onto the network, the digital arming command using one or more of the unique identifiers (2) alter an analog condition of the network to a firing condition; and (3) transmit a digital firing command onto the network, the digital firing command using one or more of the unique identifiers."

Claims 6 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Adams/Darby in view of Jullian and Williams. Claims 6 and 9 depend from claim 1 and are patentable over Adams/Darby in view of Jullian for the reasons given above and previously during prosecution of the present application. Williams fails to cure the deficiencies of the Adams/Darby and Jullian combination. Therefore, claims 6 and 9 are patentable over the combination proposed in the Office Action.

Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Adams in view of Kebabjian. Claim 13 depends from claim 1 and is patentable over Adams at least for the reasons discussed above, and those set forth previously during prosecution of the present application. Kebabjian fails to address the deficiencies of Adams as it relates to claim 1. In particular, Kebabjian fails to disclose or suggest a networked electronic ordnance system where "a single command can be used to address as few as one, as many as all, and any combination of the pyrotechnic devices that are connected to the network." Hence, claim 13 is patentable over Adams and Kebabjian.

Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 34 of 35

V. New Claims 68-87

New claims 68-87 have been added to further define the scope of patent protection sought by applicants. No new matter has been added by these claims, which find support in the specification, including at the following passages:

"The field of this invention relates to a networked system of pyrotechnic devices. Pyrotechnic devices play an increasingly important role in aerospace vehicles and systems such as rockets, aircraft and spacecraft." (Page 1, lines 4-6).

"Pyrotechnic systems used in aerospace system also typically require a separate ordnance system battery 112 and power circuit, independent from the vehicle avionics batteries 110." (Page 2, lines 18-19).

"Because the cable network 204 distributes power and signals at low voltage and low current, flexible thin cables may be used, facilitating the integration of the networked electronic ordnance system 200 into an aircraft, missile or other device." (Page 5, lines 19-22).

"The bus controller 206 preferably is electrically connected to an avionics battery 110, from which power is drawn." (Page 7, lines 1-2).

"Typically, an avionics battery (not shown) is provided for powering the avionics within an aerospace vehicle, and a networked electronic ordnance system 200 used in such an aerospace vehicle preferably draws power from that avionics battery." (Page 12, lines 18-21).

"For example, where the pyrotechnic devices 202 are located within a crewed vehicle, such as a (sic) aircraft or space craft, the use of human input to initiate arming may be desirable to ensure that the system is not inadvertently armed by automatic means." (Page 16, lines 4-7).

VI. U.S. Patent No. 6,584,907 to Boucher et al.

Finally, on November 23, 2004, the Examiner sent the undersigned a facsimile communication, which included the front page of U.S. Patent No. 6,584,907 to Boucher et al. (the "Boucher patent"). The Examiner's November 23rd communication stated: "In view of our interview the Examiner finds the following p/a relevant to your pending

FROM McANDREWS, HELD, & MALLOY

(FRI) 5.13'05 10:52/ST. 10:42/N0. 4861050580 P 37

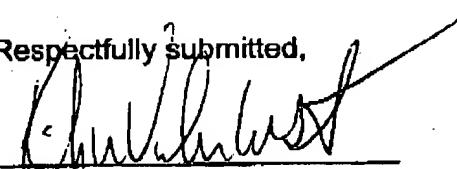
Response to Office Action of April 14, 2005
Serial No. 09/656,325
May 13, 2005
Page 35 of 36

claims. Please consider this reference when amending and/or arguing." Applicants originally submitted the Boucher patent to the Patent Office in an Information Disclosure Statement dated November 3, 2003. The Applicants are still considering this reference and would be happy to address this reference when and if it is formally raised by the Examiner in an Office Action.

VII. Conclusion

The Applicants respectfully request reconsideration of the claim rejections. No fee is believed to be due in connection with this submission. While no fee is believed due, the Commissioner is authorized to charge any fees due in connection with this submission to Deposit Account No. 13-0017.

Respectfully submitted,



Kirk A. Vander Leest
Reg. No. 34,036
Attorney for Applicants

Date: May 13, 2005

McAndrews, Held & Malloy, Ltd.
500 West Madison Street, 34th Floor
Chicago, Illinois 60661
Telephone: (312) 775-8000
Facsimile: (312) 775-8100